Abstract Of The Disclosure

[50] The invention relates to methods and instrumentation for two or multidimensional separations of biosubstance mixtures, especially protein mixtures, for mass spectrometric analysis. The invention consists in utilizing the separating effects which are attainable through the selective binding of biosubstances from solutions on solid surfaces with suitable binding characteristics or through the dissolution in fractions of surface-bound biosubstances by means of specially formulated solvent mixtures. According to the invention, these separating effects can be applied for the separation into multiple fractions, and two or more generations of such separations with different separating dimensions can be used in succession to separate the respective fractions into several sub-fractions. These separations can be carried out automatically using pipetting robots without the need for chromatographs and require far less time than multidimensional chromatography or electrophoresis.